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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/827,146

04/19/2004

Manfred Heinritz

SSM-491US1

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10/18/2005

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/827,146

Applicant(s)

HEINRITZ ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,8,12,13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,12,13 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/008,664.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1, 3, 4, 8, 12, 13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - I. Regarding Claim 1, it is unclear what is meant by the phrase "said roll barrel being provided close to a final contour of a finished component, and not as a semi-finished component, through continuous casting from a metal alloy solidified in said white cast iron outer shell of the roll barrel outside of thermodynamic equilibrium, . . . , the metal alloy being solidified in the gray cast iron core stably, and the metal alloy being chilled in said white cast iron outer shell in its crystal lattice by rapid cooling." It is unclear what distinguishes a "finished component" as opposed to a "semi-finished component," particularly as applicant explains at the bottom of page 3 of the Specification, for example, that post-finishing procedures are contemplated. It is unclear what is meant by the phrase "continuous casting from a metal alloy solidified." What is meant by casting from a solidified alloy? Doesn't the casting result in a solidified alloy? What thermodynamic equilibrium point is the white cast iron outer shell to be compared against? Is it that of the

gray cast iron that is stable? Is any gray cast iron deemed stable, or must the gray cast iron alloy be the most thermodynamically stable? Are the compositions of the alloys of the white and gray cast iron necessarily the same? Does the "continuous casting" requirement constitute a product-by-process limitation? Must both the core and shell be formed by the claimed process at the same time?

- II. Regarding Claim 15, it is unclear what is meant by the phrase "core comprising said metal alloy and solidified in said white cast iron outer shell of the roll barrel formed through continuous casting of said metal alloy in said white iron outer shell of the roll barrel outside of thermodynamic equilibrium." It is unclear whether the compositions of the alloys of the core and shell are necessarily to be the same. It is unclear against what baseline is the thermodynamic equilibrium point of the white cast iron shell to be compared. Is it that of the gray cast iron that is stable? Is any gray cast iron deemed stable, or must the gray cast iron alloy be the most thermodynamically stable? It is unclear whether "continuous casting" constitutes a product-by-process limitation that applies to forming both the core and shell at the same time? It is unclear whether the core being stably solidified is a product by process limitation or merely a description of the stability property of the core.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
  5. A person shall be entitled to a patent unless –
  6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
7. Claims 1, 3, 4, 8, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Barbezat et al. USP 4,771,524. Barbezat teaches a roll barrel for paper making comprised of a gray cast iron core and white cast iron shell. See Barbezat (Abstract; col. 1, lines 20-39 and 54-65; col. 2, lines 5-45; col. 3, lines 12-53; and col. 4, lines 22-57). Barbezat teaches that the roll barrel is formed by casting, followed by melting and cooling treatment of the shell. The claimed process limitations encompass these process steps, notwithstanding no requirement that the prior art necessarily teach process limitations absent a showing that structure and/or composition is/are necessarily determined by claimed process limitations. The core is graphitic which can be identified with the claimed gray cast iron and the shell in dendritic carbide, which can be identified with the claimed white cast iron. Barbezat also refers to conventional roll barrel making in which a gray cast iron core is enclosed by a shell comprising white cast iron. See Barbezat (col. 1, lines 22-39). Applicant's Specification makes reference to this conventional teaching at the paragraph bridging pages 1 and 2.

***Response to Amendment***

- I. In view of applicant's arguments, including supplementary materials, applicant traverses the section 102 rejection over Thome of the Office Action mailed on 9 February 2005. Rejection is withdrawn since it cannot be maintained that the core in Thome is necessarily of gray cast iron composition.

***Allowable Subject Matter***

8. Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. See the reasons of record in the Office Action mailed on 9 February 2005.


***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
14 October 2005



**MICHAEL E. LAVILLA PH.D.**  
**PRIMARY EXAMINER**